

WHAT IS CLAIMED IS:

1. A containment enclosure comprising:

a body defining an interior, wherein at least a portion of the body includes an inner wall and an outer wall, the inner wall and the outer wall define a body monitoring space;

an access to the interior, wherein the access is located near an upper extremity of the body;

a shoulder located adjacent to the access;

a reservoir in fluid communication with the body monitoring space, wherein the reservoir is configured to supply a fluid to the body monitoring space; and

a sensor disposed within the reservoir, wherein the sensor is configured to monitor movement of the fluid within the body monitoring space.

2. The containment enclosure of claim 1, wherein the reservoir is detachably attached to the upper extremity of the body.

3. The containment enclosure of claim 1, wherein the reservoir is fixedly attached to the upper extremity of the body.

4. The containment enclosure of claim 1, wherein the reservoir is disposed near the shoulder.

5. The containment enclosure of claim 1, wherein the reservoir is detachably attached to the shoulder.

6. The containment enclosure of claim 1, wherein the reservoir is fixedly attached to the shoulder.
7. The containment enclosure of claim 1, wherein the reservoir is detachably attached to the inner wall.
8. The containment enclosure of claim 1, wherein the reservoir is fixedly attached to the inner wall.
9. The containment enclosure of claim 1, wherein the fluid communication between the reservoir and the body monitoring space is facilitated by a connector.
10. The containment enclosure of claim 1, wherein the fluid communication between the reservoir and the body monitoring space is facilitated by a hose.
11. The containment enclosure of claim 1, further comprising a lid configured to block the access, wherein the lid includes a lid monitoring space that is in fluid communication with the body monitoring space.
12. The containment enclosure of claim 11, wherein the reservoir is configured to supply the fluid to the lid monitoring space.
13. The containment enclosure of claim 11, wherein the reservoir is detachably attached to the lid.

14. The containment enclosure of claim 11, wherein the reservoir is fixedly attached to the lid.

15. The containment enclosure of claim 11, wherein the fluid communication between the lid monitoring space and the body monitoring space is facilitated by a connector.

16. The containment enclosure of claim 11, wherein the fluid communication between the lid monitoring space and the body monitoring space is facilitated by a hose.

17. The containment enclosure of claim 1, wherein the shoulder includes one or more of a vertical portion, a horizontal portion, and a slope portion.

18. A containment enclosure comprising:

- a first portion having a first monitoring space defined by an inner wall and an outer wall of the first portion;

- a second portion configured to be coupled to the first portion, wherein the second portion having a second monitoring space defined by an inner wall and an outer wall of the second portion, wherein the second monitoring space is in fluid communication with the first monitoring space to form an integrated monitoring space; and

- a sensor configured to detect fluid movement in the integrated monitoring space.

19. The containment enclosure of claim 18, wherein the integrated monitoring space comprise a vacuum.

20. The containment enclosure of claim 18, wherein the integrated monitoring space is pressurized.

21. The containment enclosure of claim 18, further comprising a reservoir in fluid communication with the integrated monitoring space, wherein the reservoir comprises a fluid that flows freely in the integrated monitoring space.

22. The containment enclosure of claim 21, wherein the fluid is a brine solution.

23. The containment enclosure of claim 18, further comprising a double flanged joint coupling the second portion to the first portion.

24. The containment enclosure of claim 18, further comprising a third portion having a third monitoring space defined by an inner wall and an outer wall of the third portion, wherein the third monitoring space is in fluid communication with the first monitoring space and the second monitoring space, wherein the integrated monitoring space includes the third monitoring space.

25. The containment enclosure of claim 24, further comprising a first double flange joint and a second double flange joint, wherein the first double flange joint couples the first portion to the third portion, and the second double flanged joint couples the third portion to the second portion.

26. The containment enclosure of claim 18, wherein one of the first portion and the second portion is a lid of the containment enclosure and the other of the first portion and the second portion is a body of the containment enclosure.

27. A containment enclosure comprising:

a collar portion configured to be attached to a vessel, wherein the collar portion comprises a collar monitoring space defined by an inner wall and an outer wall of the collar portion;

a top portion configured to be coupled to the collar portion, wherein the top portion comprises a top monitoring space defined by an inner wall and an outer wall of the top portion, wherein the top monitoring space is in fluid communication with the collar monitoring space to form an integrated monitoring space;

a reservoir in fluid communication with integrated monitoring space; and

a sensor configured to monitor fluid movement in the integrated monitoring space.

28. The containment enclosure of claim 27, wherein the reservoir is located near an upper extremity of the top portion.

29. The containment enclosure of claim 27, wherein the top portion is coupled to the collar portion during field installation.

30. The containment enclosure of claim 27, further comprising an extension portion, wherein the extension portion is configured to be coupled to the top portion and the collar portion, separating the top portion from the collar portion, wherein the extension portion comprises an extension monitoring space defined by an inner wall and an outer wall of the extension portion, wherein the extension monitoring space is in fluid communication with the top monitoring space

and the collar monitoring space, wherein the integrated monitoring space includes the extension monitoring space.

31. The containment enclosure of claim 30, wherein the extension portion is coupled to the collar portion and the top portion during field installation.

32. A containment enclosure for mounting to a tank comprising:

- a collar portion having a collar monitoring space defined by an inner wall and an outer wall of the collar portion, wherein the collar portion is configured to be coupled to the tank;

- an extension portion having an extension monitoring space defined by an inner wall and an outer wall of the extension portion, the extension portion is configured to be coupled to the collar portion;

- a top portion having a top monitoring space defined by an inner wall and an outer wall of the top portion, wherein the top portion is configured to be coupled to the extension portion;

- a reservoir coupled to the top portion, wherein the reservoir is in fluid communication with the top monitoring space, the extension monitoring space, and the collar monitoring space;

- a fluid flowing freely within the reservoir, the top monitoring space, the extension monitoring space, and the collar monitoring space; and

- a sensor configured to monitor movement of the fluid in the reservoir, the top monitoring space, the extension monitoring space, and the collar monitoring space.

33. The containment enclosure of claim 32, wherein the top portion has a flat top shape.
34. The containment enclosure of claim 32, wherein the top portion has a conical top shape.
35. The containment enclosure of claim 32, wherein one or more of the top portion, the extension portion, and the collar portion have a round cross section.
36. The containment enclosure of claim 32, wherein one or more of the top portion, the extension portion, and the collar portion have a polygonal cross section.
37. The containment enclosure of claim 32, wherein one or more of the top portion, the extension portion, and the collar portion have an elliptical cross section.
38. The containment enclosure of claim 32, further comprising a lid having a lid monitoring space, wherein the lid monitoring space is configured to have fluid communication with the top monitoring space.